Alberta Environment

Update report on Alberta Environment's Upstream Oil and Gas Reclamation and Remediation Program

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1. INTRODUCTION

The Province of Alberta introduced reclamation certificates in 1963 to promote reclamation of industrially disturbed private land. The program was expanded to public land in 1978 and revised in 2003 to increase the province's ability to handle certificate applications while assuring environmental outcomes Under the current program, Alberta Environment is responsible for reclamation of private land and Alberta Sustainable Resource Development for public land. Alberta Environment oversees the development of guidelines and documentation used to administer these parallel programs. Since 1963 over 60,000 reclamation certificates have been issued in Alberta, approximately 40,000 by Alberta Environment.

Throughout the past 40 years, Alberta's land reclamation community has established itself as a world leader by meeting the challenges posed by a broad range of industrial disturbances in different landscapes and soil types. Over time, new research and technologies have improved the construction practices, soil conservation measures and revegetation techniques leading to ever-better reclamation results. Today, reclamation results are gauged against standards or *reclamation criteria* that reflect these improvements and are grounded in the concept of *equivalent land capability* – that potential uses of the land following reclamation are similar to, but may not necessarily be the same as, that which existed prior to the industrial activity taking place.

2. ALBERTA'S UPSTREAM OIL AND GAS RECLAMATION AND REMEDIATION PROGRAM

Alberta's Upstream Oil and Gas Reclamation and Remediation Program ensures that land used for oil and gas development is restored to a productive state. The program, developed in consultation with landowners, industry and other affected stakeholders, requires all upstream oil and gas sites on private and public land, to be reclaimed when a site in no longer productive.

The company that owns the well or pipeline applies to Alberta Environment or Alberta Sustainable Resource Development for a reclamation certificate. Each application must include an assessment to determine if contamination is present and a report detailing how contaminants were cleaned and surface issues were addressed. If all standards are met, the company is issued a reclamation certificate.

2.1 Program details

Alberta's Upstream Oil and Gas Reclamation and Remediation Program is designed to improve the efficiency of issuing reclamation certificates while maintaining a commitment to environmental assurance, accountability, and open communication with stakeholders.

Applications

Applications to receive reclamation certificates are accepted year-round by Alberta Environment for private land or Alberta Sustainable Resource Development for public land.

Applications must contain information on subsurface contamination and surface assessment and show that private landowners/occupants have received copies of all documentation related to land reclamation and remediation.

Applications that pass the province's comprehensive administrative and technical review will be issued a reclamation certificate.

Audits

In order to ensure that the companies responsible for reclaiming abandoned sites have complied with all of the province's reclamation and remediation standards, Alberta Environment and Alberta Sustainable Resource Development conduct randomly selected field audits at approximately 15% of all sites issued reclamation certificates after the program changed in October, 2003.

Surface reclamation audits include an inspection of the soil for topsoil depth, compaction, mixing of surface soil and subsoil, and site topography. The inspector also assesses the vegetation coverage, plant species compatibility to adjacent land, and inspects the site for weeds and the presence of rocks.

Contamination audits include soil sampling at depth, using a drill truck to obtain samples from wellcentres, drilling waste disposal areas, flare pits at random locations on site, plus background samples from undisturbed areas. The samples are sent to an environmental laboratory for analysis.

Reclamation certificates may be cancelled at audited sites or following a landowner/occupant complaint if the site does not meet criteria. Additional remediation and/or reclamation work will be required.

Complaints

Alberta Environment and Alberta Sustainable Resource Development respond to all complaints received about reclamation activity on private and public land. A form has been developed to assist landowners or occupants in filing a complaint

regarding site conditions to Alberta Environment or Alberta Sustainable Resource Development. Complaints can be forwarded at any time during construction, operation, reclamation or following reclamation of a site. Substantiated complaints may lead to the cancellation of reclamation certificates issued after the program change in October 2003.

Liability Period for Surface Reclamation

The industry liability period for surface reclamation issues (topography, vegetation, soil texture, drainage etc.) is 25 years.

For surface reclamation issues, the company is required to deal with any reclamation issues that arise in the 25-year period. The liability reverts to the government after the 25-year period has expired.

Evaluation

A number of performance measures were developed for the program. The performance measures are tools to evaluate the program and ensure it is meeting its overall outcome, that reclaimed land is remediated and productive, and more specific goals, including processing more reclamation applications, industry compliance with reclamation and remediation requirements, and improved industry consultation with landowners.

2.2 Performance Measures

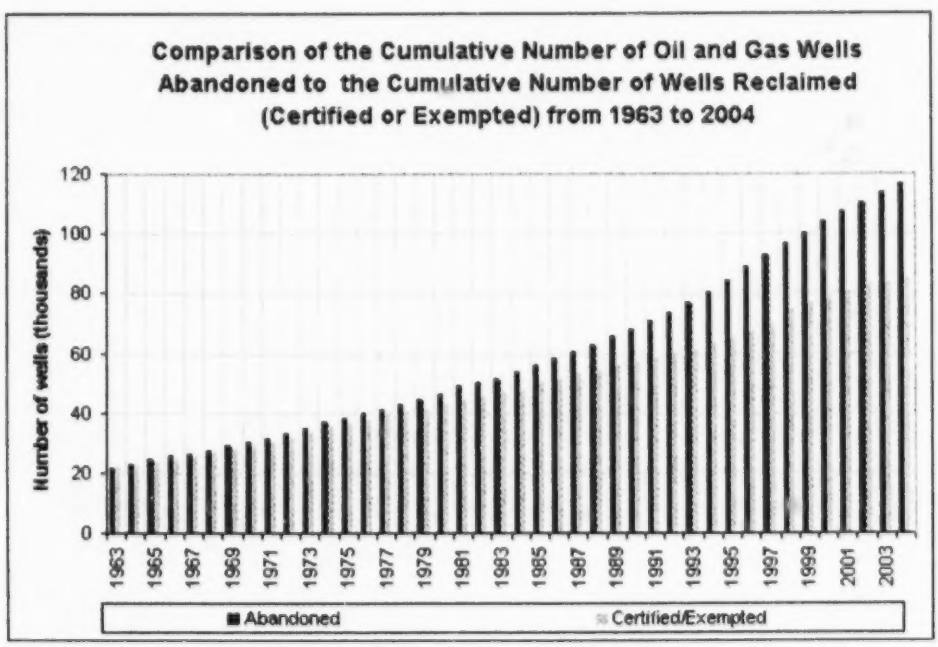
Four performance measures will help to evaluate program outcomes. The initial evaluation period provides base information that will be compared to future results.

The performance measures include:

- Ratio of certified upstream oil and gas wellsites and production sites to abandoned upstream oil and gas sites

This measure compares the number of upstream oil and gas sites that are awaiting reclamation or submission of the site evaluations to government to the number of reclamation certificates for private and public land that have been issued by Alberta Environment and Alberta Sustainable Resource Development.

The program goal is to increase the number of abandoned sites that are reclaimed each year. Reclaiming oil and gas sites in a timely manner, after a well is no longer productive, will help to reduce the impact on the land.



- Percentage of applications receiving a reclamation certificate

This measure indicates the percentage of reclamation certificate applications that undergo a successful desktop review and receive a reclamation certificate. The reclamation certificate application pass rate indicates the quality of the applications submitted and therefore, the percentage of sites that have achieved Alberta Environment's remediation requirements and reclamation criteria.

The program goal is to work with industry to increase the number of applications that meet the reclamation and remediation requirements necessary to receive a reclamation certificate. Ideally, all applications will meet the necessary standards and provide enough information to be successful in the province's review.

October 1, 2003 to July 31, 2005

Number of applications certified	Number of applications refused	Application pass rate
AENV 1353	297	82.0%
ASRD 1273	51	96.1%

- Percentage of randomly selected sites certified after program changes in October 1, 2003 that pass the audit.

This measure indicates the percentage of randomly selected certified sites audited by Alberta Environment and Alberta Sustainable Resource Development that have met the province's reclamation and remediation requirements. The number of audits are based on the number of sites certified in the previous fiscal year. After the audits are completed for the 2004 – 05 fiscal year, they will be posted on Alberta Environment's website.

Approximately 15 percent of upstream oil and gas sites that receive a reclamation certificate under the Upstream Oil and Gas Reclamation and Remediation Program will be audited. This performance measure provides assurance that certified sites are meeting the province's remediation requirements and reclamation criteria.

The program goal is to work with industry to increase the number of oil and gas sites that meet the reclamation and remediation requirements necessary to pass the field audit. Ideally, all audited sites will meet the necessary standards and provide enough information to be successful in the province's review.

October 1, 2003 to March 31, 2004

Total number of wellsites certified	Number of surface reclamation audits	Number of contamination audits	Outcome following audit
AENV 239	37 (15%)	23 (10%)	- 7 sites are under investigation following a surface audit. - 1 site under investigation following a contamination audit - 0 reclamation certificates have been cancelled
ASRD 362	86 (23.7%)	1 (1%)	- 11 reclamation certificates were cancelled.

- Percentage of private land applications accompanied by Acknowledgement of Information Disclosure form.

This measure indicates whether industry had been in consultation with private landowners prior to application for a reclamation certificate. Communication between industry and landowners is an important aspect of reclamation success. Landowners usually want to be informed of remediation and reclamation activities that occur on their land.

This is a program goal specific to private land. Alberta Environment is working to ensure that all private landowners/occupants have access to documentation related to land reclamation and remediation in application packages and to increase communication between industry and landowners/occupants.

Applicants for a reclamation certificate must provide evidence that efforts have been made to consult landowners and that they have been provided all information in the application package. Operators can demonstrate this communication by submission of an *Acknowledgement of Information Disclosure* form voluntarily signed by the landowner or, failing this, through submission of a *Statutory Declaration* that information has been provided but the landowner was unable or unwilling to sign the *Acknowledgement of Information Disclosure* form. On the *Acknowledgement of Information Disclosure* form, the landowner can also indicate whether he/she had the opportunity to discuss with the operator the planning and outcomes of remediation and reclamation work on his/her land.

From October 1, 2003 to July 31, 2005, 56.9% of applications were submitted with an *Acknowledgement of Information Disclosure* form that was completed by the landowners. Of the respondents, 73.3% of the landowners indicated they were involved in the planning of remediation and reclamation work done at their site and 81% of the landowners indicated they were apprised of the results of the remediation and reclamation work on their land.

3. PROGRAM REVIEW

As the department that oversees the development of guidelines and documentation for the administration of the Upstream Oil and Gas Reclamation and Remediation program, Alberta Environment is committed to annual review and ongoing consultation with stakeholders to improve the program. As the program develops, multi-stakeholder consultation continues to be an important part of evaluation.

Three multi-stakeholder consultation workshops were held between June 2002 and April 2003. In addition, two multi-stakeholder advisory committees were established by Alberta Environment (the Oil and Gas Reclamation and

Remediation Advisory Committee and the Contaminated Sites Stakeholder Advisory Committee) to provide guidance in dealing with reclamation and contaminated sites issues.

Recommendations to the Minister were received from the Oil and Gas Reclamation and Advisory Committee in November 2004. Alberta Environment is currently reviewing and working on implementing several recommendations received from this committee.

Recommendations to the Minister were submitted by the Contaminated Sites Stakeholder Advisory Committee in July 2005. Alberta Environment is currently reviewing these recommendations.

3.1 Oil and Gas Reclamation and Remediation Advisory Committee (OGRRAC)

The mandate of OGRRAC, which began its work in June 2003, was to provide recommendations to Alberta Environment on providing a remediation and reclamation program that is scientifically and administratively sound and provides clear accountability for all parties.

Membership of the OGRRAC was designed to ensure that key stakeholder groups were engaged and that there was a balance of expertise in various relevant disciplines. OGRRAC representation included:

- Landowners;
- Canadian Association of Petroleum Producers;
- Farmer's Advocate;
- Alberta Association of Municipal Districts and Counties;
- Alberta Energy and Utilities Board;
- Alberta Sustainable Resource Development;
- Canadian Energy Pipeline Association; and,
- Alberta Environment.

The Committee completed its work and issued recommendations to the department. The recommendations include legislative and policy changes outlining industry liability period following certification, fees needed to support assurance elements in the program and the establishment of performance measures. The OGRRAC recommendations report can be viewed at: http://www.gov.ab.ca/env/protenf/landrec/documents/oggracrecommendationstominister.pdf

Alberta Environment is reviewing these recommendations and has begun work to implement several of them, including:

- Changes to the liability period for surface reclamation
- Clarifying the role of specialists in the remediation and reclamation of oil and gas sites
- Consultation with lending institutions to address landowner liability concerns associated with oil and gas development on their land
- Performance measures for remediation and reclamation
- Reclamation Certificate application fee structure for the new program
- Research on use of stratified remediation at 1.5 m depth

4. CONCLUSION

Alberta's Upstream Oil and Gas Reclamation and Remediation Program ensures that land used for oil and gas development is restored to a productive state. The program aims to provide timely reclamation of oil and gas sites while maintaining a strong commitment to environmental assurance. Alberta Environment is the department responsible for overseeing the development of guidelines and documentation used to administer the program and is committed to its ongoing improvement. Review of performance indicators and consultation with stakeholders will provide regular evaluation of the program. Alberta Environment is currently working on improving the program by implementing several recommendations received by a multi-stakeholder committee developed to provide guidance in dealing with reclamation and contaminated sites issues, the Oil and Gas Reclamation and Remediation Advisory Committee (OGRRAC).

Backgrounder

Alberta's Upstream Oil and Gas Reclamation and Remediation Program ensures that land used for oil and gas development is restored to a productive state.

The program, developed in consultation with landowners, industry and other affected stakeholders, requires all upstream oil and gas sites on private and public land, to be reclaimed when a site in no longer productive.

Program Details

- Application packages can be submitted year-round for consideration to either Alberta Environment for private land or Alberta Sustainable Resource Development for public land.
- Applications must contain information on subsurface contamination and surface assessment.
- Applications must show that private landowners/occupants have received copies of all documentation related to land reclamation and remediation.
- Field audits are conducted at approximately 15% of all certified sites to ensure reclamation criteria and remediation requirements are met.
- Reclamation certificates can be cancelled should an audit or complaint investigation demonstrate that a certified site does not comply with Alberta Environment standards.
- All complaints are fully investigated by Alberta Environment.
- Landowners receive a form that will assist with organizing, documenting, and filing complaints related to reclamation activities.
- The industry liability period for surface reclamation issues (topography, vegetation, soil texture, drainage etc.) is 25 years and lifetime liability for contamination.
- Alberta Environment will review the program annually and work with stakeholders to improve the program.
- Annual performance measures will provide an ongoing evaluation of the program.

Program Evaluation

Four performance measures will provide an ongoing evaluation of the program enhancements. The current results will act as base indicators for annual evaluations of the program.

The performance measures evaluate Alberta Environment's capacity to process reclamation certificates, industry compliance with reclamation and remediation requirements, and industry consultation with landowners.

The indicators include:

- The ratio of certified upstream oil and gas wellsites and production sites to abandoned upstream oil and gas sites.
- The percentage of applications that receive a reclamation certificate.
- The percentage of randomly selected sites that pass the field audit.
- The percentage of applications accompanied by an "Acknowledgement of Information Disclosure" form voluntarily completed by landowners.

Additionally, Alberta Environment is engaged in ongoing multi-stakeholder consultations to improve the program. The department is currently working on implementing several recommendations received by a multi-stakeholder committee formed to provide guidance on the Upstream Oil and Gas Reclamation and Remediation Program.